Agilent Technologies

Agilent N5467A User Defined Application Version 01.40

Released Date:	18 February 2011
(Application Generator) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01400001.exe

Highlights:

You can now:

- Create dynamic pass limits using internal variables.

- Create information-only tests that have no pass limits.

- Set internal and config variables during a Debug Run.

- Launch an add-in from within the generator.

- Get full-screen scope images.

- Use a helper to insert %var% clauses.

(Details below)

Additions:

Application Generator

Tools Menu:

- (Add-Ins) Options->Miscellaneous tab: New setting for choosing the default minimum Add-In interface for new projects.

Various screens now provide an "Insert Variable" helper to construct "%var% clauses.

Tests/Subroutines/Events Tabs:

- Manage Steps screens have a new 'Extract' button that will move the selected steps into a new subroutine.

- You can now set internal and config variable values from the Debug Runner screen.

Tests/Subroutine Tabs:

- You can now select a "full screen" image for an Intermediate Value step.

(Add-Ins) New 'Compatibility' Tab:

- Enables you to trade off new features in your add-in for increased legacy application compatibility.

Tests Tab:

- You can now select a "full screen" image for a Final Result step.

Miscellaneous Tab:

- You can now specify a .txt Release Notes file.

Modifications:
<u>Application Generator</u>

Increased enforcement of internal variable case sensitivity.

File Menu:

- 'New Project' now resets all internal and config variable values.

- 'Open Project' now restores the Debug Run values for internal and config variables to what they were when the project was saved (Ensure Tools->Options::Debug::Maintain is checked before you start the Debug Run to avoid resetting these).

- 'Open Project' now restores the build number (3rd segment of version field).

- You can no longer use an older version of the N5467A application generator to import a fragment created by a newer version. (You may find that some fragments created by 1.40 will fail to import into 1.30 projects. Please upgrade to N5467A version 1.40)

Build Menu:

- You can now 'Launch' an add-in to test it without having to install it in a real compliance application.

Tools Menu:

- Manage->Internal Variables: You can now add multiple internal variables more easily.

- Options::Debug: "Persist" user preference option setting (now called "Maintain") is now saved/restored between application generator sessions.

Tests/Connections/Subroutines/Events Tabs:

- Now filters entries in a VariableName combo box as you type.

Tests/Subroutines/Events Tabs:

- You can now use internal variables in a Verify Condition Step's limits.

- Debug Run:

    o Added protection to prevent errors that occur during Debug Runs from terminating the application generator.

    o (Add-Ins) Now lets you include the 'User Defined Group Ended' event.

Tests/Configs/Connection Tabs:

- You can now rename tests, configs and connections using names that differ only by capitalization.

Tests Tab:

- You can now use internal variables in a test's Final Result pass limits.

- You can now define tests that have no pass limits.

- You can now create test groups for your add-in's tests.

- Now when you edit a test that has steps, the Step Editor automatically opens.

Configs Tab:

- You can no longer set the value to use for a Debug Run from the Config editor screen (now use Debug Runner screen).

Connections Tab:

- You can now associate connection instructions with whole test groups instead of with individual tests, enabling a diagram to display before the group's event steps execute.

Events Tab:

- You can now add steps to an add-in's sub-group events.

- Fixed use of WriteFileStep in Events (no longer get "malformed run option" error during generated app startup).

Build Tab:

- Add-In installer filename now includes guidance to help you identify compatible compliance applications.

Automation Tab:

- Now available for use with add-in projects.

Installer now verifies Microsoft .NET 3.5 or newer is installed on scope before proceeding.

"Verify Condition Step" now responds correctly to frequency measurement query when no waveform is present.

(App) Legacy projects will be loaded as read-only (can't append) due to changes in the data model. (Mention this in your generated app's Release Notes so users will not be surprised by this when they upgrade).

(App) Fixed 'Set Up' tab test group filters.

(App) Exceptions thrown in "Create/Edit User Defined Limit Set" screen no longer terminate the application.

(App) Fixed bug in "Create/Edit User Defined Limit Set" screen: You can now set a nominal value for case: value < 0

(App) New user preference to autoscroll the HTML Report to the selected test result (View:Preferences:Report).

(App) HTML Report:

- Overall Pass/Fail status now displayed at top.

- Application name now appears in the HTML Report title instead of in the Test Configuration table.

- Now reports if any test was run while in 'Debug' mode (see 'Configure' tab).

- Added navigation buttons in between result detail sections

(App) When you open a project made by a different application, the error message now correctly reports the version the app that saved the project.

(App) Fixed loading of projects made by different applications when the application's name is listed as a "compatible" app.

(Add-In) Fixed installation of custom "other" files when the destination directory does not already exist.

(Add-In) Add-In tests now identify themselves as "User Defined" in the host application's HTML Report (Add-In Interface 1.10 or later).

(Add-In) Add-In now reports its beta/release status in the host application's Help->About screen and HTML Report (Add-In Interface 1.10 or later).

Agilent N5467A User Defined Application Version 01.30

Released Date:	2 November 2010
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series), 2.00 (9000 series)
File Name:	SetupInfUserDefApp01300004.exe

Additions:
Generator Tool

You can now create "Add-Ins" that can be installed into existing compliance applications.

New 'Automation' tab enables you to automate generated app behavior.

Tools Menu:

- Manage

    o New Reserved Variable: Reserved_ProjectAppPath

- Options

    o New 'Build' tab

    o New 'Debug' tab

Steps:

- New 'Apply Transfer Function' Step

- New 'Write File' Step

Events:

- New 'Any Trial Ends' Event

Miscellaneous:

- You can now include a test procedure PDF file in a generated app

- Manage > Other Files: You may now have a period (.) in your custom install directory, e.g. c:\temp\mydir.something\

Modifications:
Generator Tool

Custom Math Libraries compiled against previous versions of N5467A must be rebuilt to work with this version. See the "Managing Math Libraries" topic in the user manual.

Removed Basic Mode.

Build:

- Generator tool no longer hangs when you build an event step that calls a recursive subroutine.

- Now generates build error if a non-CommandFile step refers to a non-existent external instrument.

Set Up tab:

- Displayed build number now dynamically updates each build.

- When you rename an external instrument, the change is now propagated to the steps.

Tests tab:

- Now warns when you are about to delete a test group that has run events associated with it.

Debug Run:

- You can now persist internal variable values across debug runs via the Tools->Options dialog.

- Debug Run Echo Console now displays Console App launch command args.

- Fixed on-scope debug run involving external instruments.

Step Editor:

- Console App step no longer complains about missing success text when verification is turned off.

Miscellaneous:

Parsing: Wherever you can specify how text is parsed, you can now specify more than one character; the text will be split every time any of those characters is found. This includes special characters enabling parsing of multi-line files.

%var:% syntax now returns a non-engineering formatted string if the value is a whole number.

The External Instrument Definition dialog now warns about reference changes only when you change the nickname (case sensitive).

You can now control external instruments via a SICL socket address, such as the N4903A J-BERT high-performance serial BERT.

Build Results Pane: Fixed build error line number when error step is preceded by one or more comments.

When you enable or disable a step, it now moves to the center of the visible window (now matches the edit step behavior).

In While blocks containing a ContinueWhile followed by BreakWhile, the Break is now skipped.

<u>Generated App</u>

Added splash screen to installer.

Now supports Remote Interface version 1.70.

Fixed a crash that could occur when the generated app contained a long-running while loop.

Application installer is now fully automated.

Scope: When a scope is missing the UDA option license, installed UDA apps now appear under Analyze->Unlicensed Apps submenu.

When an abort step fires in a Run Event, you can now see the message you specified in the step.

No longer throws exception when you use a config value that looks like a numeric too big to fit inside a double precision float var, e.g. 1E9841345714544.

An IntermediateValue step followed by an AbortStep will no longer terminate the application.

Agilent N5467A User Defined Application Version 01.22

Released Date:	13 July 2010
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01220001.exe

Modifications:

Generator Tool

File Menu:

- Now you can open projects when your PC has language localization enabled.

Configs:

- Now removes leading and trailing spaces from config definition entries, preventing phantom config issues.

Generated App

Launch:

- No longer reports "malformed run options" when an event contains a SetVariableStep whose source is a SCPI command.

Agilent N5467A User Defined Application Version 01.21

Released Date:	14 May 2010
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01210001.exe

Modifications:

Generator Tool

File Menu:

- Build: Fixed a "recursive subroutine error" that would sometimes be reported when there was no recursion.

Steps:

- You are now prevented from creating a Math Expression in which you pass a multi-term expression as an argument to a function call, e.g."Math:Abs(x – y)"(The UDA step execution engine does not handle these types of arguments yet.).

- You are now prevented from including library functions or properties in IF and WHILE step predicates, e.g."if (x < Math:Abs(y))" (The UDA step execution engine does not handle these types of predicates yet.).

Generated App

Installer:

- Now opens up port exceptions in the oscilloscope's firewall to enable control of the generated app via its remote interface (in case no previous app had ever opened these ports.)

Agilent N5467A User Defined Application Version 01.20

Released Date:	15 March 2010
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01200000.exe

Additions:

Generator Tool

File Menu:

- You may now export and import individual tests and subroutines.

Tools Menu:

- Debug Run: You may now reset each config's Debug Run value to its default value.

Steps:

- "If", "Else" and "EndIf" Steps now enable you to create conditional blocks of steps.

- "While", "Break". "Continue", and "EndWhile" Steps now enable you to repeat blocks of steps.

- "Abort" Step now enables you to stop the test or run in progress.

- "Return" Step now enables you to exit a subroutine or event before its last step.

Modify Steps dialog:

- <ctrl>A now selects all steps.

- Improved cursor behavior when adding and deleting test steps.

Events:

- "Any Test Group Starts": Fires every time test flow enters a new group, at any level, including the RootGroup.

- "App Shown": Fires as soon as the generated app is launched.

Modifications:

Generator Tool

File Menu:

- New Project now removes group-specific events.

- Make Project Editable now works when the project has no user files.

Tools Menu:

- Moved Predefined Variables button to Tools > Manage > Reserved Variables. You can now find references to reserved variables.

- Some keyboard shortcuts in the Manage menu and in the Choose Step Type dialog were changed to make the two lists consistent.

External Instruments:

- Fixed error message when you edit an existing definition.

Debug Run Dialog:

- At the start of each Debug Run session, now sets all internal variable values to value "NaN" (Not a Number).

- Now displays the current values of all internal and config variables directly referenced by the steps in the list.

- Breakpoints now indicated as a "B" in the first column.

- No longer executes commented-out steps inside subroutines.

- When running the generator tool on a scope, no longer asks you for the SICL address; now automatically uses lan[localhost]:inst0.

- Added protection against recursive subroutine calls.

Steps:

- You may now copy and paste steps between step containers. The <ctrl>+x keyboard shortcut has been removed.

- Now when you add steps, they get inserted above the selected line.

- When you edit a step whose value source is a Config, the Specify Value Source dialog now defaults to the correct config.

- DisplayMessage Step: Now you can display messages with response choices, such as "OK / Cancel", "Yes / No", etc. and access the user's response in a variable.

- LoadMask Step: Build now works when running on PC even if you have not entered the Mask File Path on the 'Debug Run' tab yet.

- SetVariable Step: You can now set a user-editable config to arbitrary text.

- SleepStep: You may now use a math expression to define the duration.

Configs:

- Fixed "Rename" action when the label is a superset of the variable name.

Subroutines:

- Now you can delete steps causing recursive loops.

Events:

- Now prevents you from adding a call to a subroutine directly or indirectly containing an Intermediate Value step.

- When you rename a test group, the associated group-specific Event is now renamed instead of replaced.

Build:

- Now you no longer get an error when launching the generated app from within the tool when the scope does not have an App Remote license.

Managers:

- Internal Variables: You may now change references from one internal variable to another. Internal Variable Names may now also contain underscores (_)

- ManageConsoleApps: Removed "Substitute" option; now use "Change Refs".

- You may now export search results to a file.

- Math Libraries: IDs may now also contain numbers and underscores (_). You may no longer load the same library twice.

- Other Files: you can now edit an entry to point to the same named file in a different directory.

<u>Generated App</u>

Remote interface upgraded to version 1.60.

Agilent N5467A User Defined Application Version 01.11

Released Date:	27 January 2010
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01110000.exe

Additions:

Generator Tool

Non-Agilent Technologies external instruments (SCPI-compliant) are now supported.

Modifications:

Generator Tool

Fixed intermittent N5467A installer upgrade failures.

An event may no longer include Intermediate Value steps or subroutines that call them (causes error at generated app runtime).

When you abort an "Open Project" action, a new project is now started.

Now finds references to config variables used inside connection definitions.

Now respects user-provided timeouts for queries when value source is "scope" or "external instrument".

Debug Run now works with steps involving configs that have parentheses in their labels.

Now handles bad external instrument addresses more gracefully.

Display dialogs containing tree views starting at the top of the tree.

The project is now marked dirty when you add/remove additional files in the Manage External Scripts dialog.

When you load a project that contains Console Application definitions, the Supporting Files list box no longer shows duplicates.

Agilent N5467A User Defined Application Version 01.10

Released Date:	04 December 2009
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01100000.exe

Additions:

Generator Tool

You can now define subroutines of steps that can be called by Tests, Events, and other subroutines.

- See: 'Subroutine' tab in main dialog

Math expressions may now include properties and function calls for external math libraries.

- A core math library is included with the generator tool.

- You may also plug in custom libraries that you create as well.

- See: Tools > Manage > Math Functions

New step type: Load Scope Mask which enables mask testing and loads the specified mask file.

- As with scope setup files, in order to run this step from a PC you will need to provide a scope-centric path on the 'Debug Run' tab

You may now install User Defined Function files into Infiniium's UDF directory.

- See: Tools > manage > Miscellaneous Files

You may now set breakpoints in the Debug Run dialog.

You can now disable an individual Test step or Event step to temporarily exclude it from the build.

You can now add comments to Test step lists and Event step lists.

"Find References" results are now available in the main dialog Results pane, 'Find' tab.

Added support for installing miscellaneous files (those not already handled by another mechanism).

- See: Tools > Manage > Miscellaneous Files

Added predefined variables to enable you to discover certain runtime paths.

- See: Tools > Predefined Variables

Verify Condition step now has "Abort Test" option which respects the generated app's Preference setting, Run: Test Abort Action.

Added F1 help support for build errors

<u>Generated App</u>

Screen shots now include waveform memory scales if a waveform is displayed

Modifications:

<u>Generator Tool</u>

Buttons for managing external instruments have been moved to a separate dialog, accessible from:

- Menu: Tools > Manage > External Instruments

- 'Set Up' tab: Manage buttons

You may now set user-editable Config variables in Set Variable steps.

You may now use Config variables as the source for Final Result value.

Tool now warns you if you try to load a scope setup or mask from within a Command or Command File step (suggests you use the specialized step for these).

In Tests and Event step lists, copied steps are now inserted immediately after the selection.

Tool now warns you upon renaming a config or internal variable that references in command files will not be updated.

Test and Event step lists are now editable via a separate dialog.

The Debug Run button in the Test Definition dialog now enables you to combine that test's steps with associated events to exercise a more complete run.

The Debug Run button in the Events tab now enables you to combine events to exercise a more complete run.

The Events combo box entries are now listed in order of runtime execution.

Build now catches conditions leading to image file paths that would exceed the file system max of 259 characters.

Find Config References now finds usages in Intermediate Value and Final Result steps.

Set Variable step exceptions are now handled by the standard runtime abort handler (no dialog will interrupt the run now).

When you change a config's label, all steps referring to that config by label are now updated.

When Intermediate or Final Result step reports either a config variable or a math expression, you can now include an image.

%VAR:% clauses in External App step Args field now work correctly.

When you edit a test whose pass limit is a single-ended (non-range) value of 0, you no longer get false limit-changing warning if you do not change the limit.

When you edit a Set Variable step, the variable box now defaults to the current variable name.

The requirement to make Intermediate and Final Result step labels unique is now a case sensitive comparison.

The Connection Changing event now only fires if the user actually changes the connection (clicks 'Next', not 'Ignore').

When developing on an oscilloscope, you can now execute a Load Setup step within a Debug Run.

Fixed various text boxes that would jump the cursor to the end when you typed in them.

While a generated app is running, the main dialog status bar now indicates this and you can no longer perform a build.

Added validation to pass limits "Nominal" field.

Console App Step: "Use Timeout" now unchecked when disabled.

Now you can only add Test Groups when either the Tests or Config tab is active.

Generated App

Now uses remote interface version 1.40.

Improved stability on runs > 48 hours in duration.

When you save a project, now warns if the path length you choose would cause one or more of the project's files to exceed operating system max path length.

File > Export Results > CSV output is now sorted the same way as results are displayed in the 'Results' tab.

'Configure' tab combo box caption now says "Select a value" or "Select or type in a value" to indicate whether or not it accepts user-defined text.

Agilent N5467A User Defined Application Version 01.01

Released Date:	28 August 2009
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series) , 2.00 (9000 series)
File Name:	SetupInfUserDefApp01010000.exe

Additions:

Added new entries in the Tools->Manage menu to support connection diagrams and external application scripts.

Modifications:

External Application Dialog:

- Redesigned to clarify difference between executing a program and a script.
- Scripts are now always installed.
- Scripts are now installed in the generated application's installation location.
- You may use %VAR variables in the Script Full Path filename.

If you abort an "open project" action after selecting the project, a new project is now always started.

You can now modify a connection definition to use a different image or custom HTML file even when the new file has the same name as the old one, as long as the old file is not currently used by any other connection definition.

External app step scripts are now always saved with the project.

In the "Manage CommandFiles/ConnectionXxx/ScopeSetupFiles" dialogs, the 'Browse' button in the 'Change References' action now starts in the last directory used for that file type.

Agilent N5467A User Defined Application Version 01.00

Released Date:	1 July 2009
(Generator tool) Supported Operating Systems:	Microsoft Windows XP Service Pack 2 or later, Microsoft Windows Vista
(Generated App) Minimum Infiniium Oscilloscope Baseline Version:	5.70 (80000 series), 1.41 (90000 series), 2.00 (9000 series)
File Name:	SetupInfUserDefApp01000000.exe

Initial Release